

## MIXTURE EXPERIMENT DESIGN METHOD AND SYSTEM

## ABSTRACT OF THE DISCLOSURE

[0060] An experimental space is determined comprising  $n$  factors and a first factor in  $M$  number of factor level intervals and in a range of  $A_{\min}$  to  $A_{\max}$  where  $A$  is a proportion of the factor level to total factor levels. An experiment is conducted on the first factor sampled in a range of levels determined according to a relationship  $(A_{\min} + (A_{\max} - A_{\min})/(n(M-1)))$  to  $(A_{\max} - (A_{\max} - A_{\min})/(n(M-1)))$ . A system comprises a reactor for effecting a CHTS method on an experimental space to produce results and a programmed controller for the reactor that defines an experimental space comprising a lattice of points representing increments of reaction factor levels from a minimum level value to a maximum level value according to the relationship  $(A_{\min} + (A_{\max} - A_{\min})/(n(M-1)))$  to  $(A_{\max} - (A_{\max} - A_{\min})/(n(M-1)))$  where  $M$  is a number of intervals for the factor levels of the range,  $n$  is a number of mixture components and  $A$  is a proportion of the factor level to total factor levels.